THE IMPACT OF EXPRESSIVE WRITING ON PROSPECTIVE TEACHERS' SENSE
OF EFFICACY, STRESS, BURNOUT, AND SATISFACTION WITH TEACHING

By

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This dissertation is dedicated to my late dad, Anopchand, whom I called "bapuji," for his timeless advice that you always have control of one thing in life, that is, hard work, and that this control can make a difference in your life. I hope his spirit will always inspire and guide me to the right path.

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The present study investigated (a) whether expressive writing reduces stress and
burnout among prospective teachers and increases their sense of efficacy and satisfaction
with teaching profession, (b) whether frequency of writing increases the impact of
expressive writing on stress and burnout, and (c) whether teachers' sense of efficacy
mediates the relationship between expressive writing and stress, burnout, and satisfaction
among prospective teachers. This investigation was based on research indicating that
expressive writing about stressful events improves physical and psychological well-
being. The experimental research design consisted of a pretest, two interventions and a
control group, and a posttest.

Participants were 124 university students from the teacher education program at the
University of Florida who were doing their preinternship in elementary schools in north

central Florida. All participants were recruited on a voluntary basis. In the final analysis, only 86 of the eligible participants were included as those with missing data and those who had not completed all four phases of the experiment were omitted.

Prospective teachers who disclosed their deeply felt experience of the preinternship through expressive writing did not report less stress as indicated by the Teacher Stress Scale, less burnout as indicated by the Educators Survey, a stronger sense of efficacy, as measured by the Teacher Efficacy Scale, or greater satisfaction with the teaching profession than those prospective teachers who wrote about factual events. However, there was an interaction between the treatment and pretest measure of role overload and role conflict. That is, prospective teachers in the one-expressive-writing group who had high pretest scores on role overload and role conflict measures had lower scores on the posttest measures of role overload and role conflict; however, prospective teachers with high levels of stress on the pretest who completed two expressive writings had higher scores on the posttest measures of stress due to role overload and role conflict. Also frequency of expressive writing did not have any impact on prospective teachers' sense of efficacy, stress, or burnout. Further, no evidence that teachers' sense of efficacy mediated the relationship between expressive writing and stress and burnout was obtained.

CHAPTER 1
INTRODUCTION

Statement of the Problem

Teaching in front of a class can be very stressful for prospective teachers (Man &
Hamid, 1998). According to Fuller (1969), prospective teachers tend to worry about their
adequacy as teachers, their ability to maintain discipline, and being liked by students.
Researchers have found that prospective teachers do have problems in their teaching,
particularly in the area of student discipline (Veenman, 1984) and understanding
classroom life (Brookhart & Freeman, 1992; Reynolds, 1992). Other factors in teaching
that provoke stress include fatigue, interruptions, fluctuating expectations and working
conditions, loss of respect and authority, role confusion, class sizes, and fear (Barner,
1982; Sarros & Sarros, 1987). Stress associated with the teaching role reduces enthusiasm
and heightens the desire to quit (Dworkin, 1987).

Most prospective teachers are in their early 20s. This age is usually a transition
stage in life (Gold & Roth, 1993). On a personal level they are going through a period of
considerable change. They are learning to balance their budgets, manage their time, and
respond to a new set of personal and professional needs. Research by Gold (1985)
indicates that young single people have the highest perceived level of burnout. Part of the
reason is that they have no one to come home to, no one to share their success or console
them when they fail, and no one to provide deep interpersonal support. This isolation

results in stress and eventually burnout (Gold & Roth, 1993). Thus it is evident that prospective teachers are vulnerable to stress and eventual burnout.

Burnout does not have a single cause; rather, the numerous covarying stressors that educators experience in the performance of their daily roles contribute to the process of burning out. Gold and Michael (1985) and Gold and Bachelor (1988) reported that prospective teachers showed evidence of perceived levels of burnout during teacher preparation process. Perceived levels of burnout have even been reported among prospective teachers taking professional methods courses, before they start teaching in their own classrooms (Gold, Bachelor, & Michael, 1989). Given the difficulty in influencing these stressors (many of which may be beyond the control of the prospective teachers), it would be useful to find a mechanism that can reduce the stress before it builds into burnout.

One simple way to reduce stress in prospective teachers may be through expressive writing. Research has shown that writing about traumatic experiences for 3 to 5 days, for as little as 10 minutes per day, reduced physician visits (Pennebaker & Beall, 1986; Pennebaker, Kiecolt-Glaser, & Glaser, 1988), improved immune function (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Pennebaker et al., 1988; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995), improved college students' grades (Pennebaker, Colder, & Sharp, 1990), and enabled individuals who had been unemployed to secure new jobs more quickly (Spera, Buhrfeind, & Pennebaker, 1994).

However, the reason why expressive writing reduces stress is unclear. Two potential mechanisms have been suggested in the literature. Pennebaker (1997) suggested that inhibition of negative feelings is a stressor, and disclosure through writing produces

catharsis. A second mechanism suggested by Krantz and Pennebaker (1996) and Lepore (1997) is that writing induces cognitive changes, specifically, increases in insight and causal thinking. The research does not clearly support either of these alternatives. A third alternative is that expressive writing increases feelings of self-efficacy and thus reduces stress and burnout (Bandura, 1997). No attempts have been made to determine whether expressive writing can increase teachers' sense of efficacy and hence reduce stress and burnout among prospective teachers. This study attempts to fill that gap.

<div align="center">Purpose of the Study</div>

Pennebaker (1989, 1993) and Smyth (1998) have shown that expressive writing about stressful events improves physical and psychological well-being. The purpose of this study is to investigate (a) whether expressive writing reduces stress and burnout among prospective teachers and increases their sense of efficacy and satisfaction with teaching profession, (b) whether frequency of writing increases the impact of expressive writing on stress and burnout, and (c) whether teachers' sense of efficacy mediates the relationship between expressive writing and stress, burnout, and satisfaction among prospective teachers.

<div align="center">Hypotheses</div>

1. Prospective teachers who disclose their deeply felt experience of the internship through expressive writing will report less stress as indicated by the Teacher Stress Scale (Pettegrew & Wolf, 1982), less burnout as indicated by the Educators Survey (Maslach, Jackson, & Schwab, 1986), a stronger sense of efficacy, as measured by the Gibson and Dembo (1984) Teacher Efficacy Scale, and greater satisfaction with teaching profession than those prospective teachers who will write about factual events.

2. Frequency of expressive writing will have an impact on prospective teachers' sense of efficacy, stress, and burnout and satisfaction with teaching.

3. Teachers' sense of efficacy mediates the relationship between expressive writing and stress, and burnout and satisfaction with teaching

<u>Theoretical Significance of the Study</u>

This study has the potential to advance theoretical understanding of the process by which expressive writing reduces stress. Francis and Pennebaker (1992) have shown the positive impact of expressive writing on emotional well-being among university employees. Over 90% of the employees who wrote on a traumatic topic reported that writing had helped them through tough situations that they had been experiencing at that time. Similarly, Lepore (1997) has shown that expressive writing diminished psychological distress in individuals prior to taking examinations for entrance to graduate school. Participants in the experimental group who wrote on a traumatic topic exhibited a significant decline in depressive symptoms before the exam compared to those who wrote on a trivial topic. However, the process by which these declines in negative affect occur is unclear. On the basis of Bandura's (1997) theory of self-efficacy, it is hypothesized that expressive writing will increase teachers' sense of efficacy, which will in turn enhance psychological well-being among prospective teachers.

Pennebaker (1997) proposed two models to explain why expressive writing fosters the development of feelings of emotional well-being. In the first model proposed, Pennebaker (1989) hypothesized that inhibition of emotion is a stressor and disclosure of feelings provides relief from the stress of inhibition. Research evidence has supported his claim that inhibition has a negative effect on psychological well-being (Cole, Kemeny,

Taylor, & Visscher, 1996), but disclosure does not appear to be the mechanism that reduces inhibition. Greenberg and Stone (1992) asked 60 undergraduates to write about undisclosed traumas, previously disclosed traumas, or trivial events. The results showed no significant differences between the groups on measures of long-term health utilization and physical symptoms. If the disclosure theory were valid, then the undisclosed trauma group should have reported greater health benefit than the disclosed trauma group.

More recently, Pennebaker (1997) has proposed that cognitive changes may account for the reduction of inhibition that results from expressive writing. Francis and Pennebaker (1992) found that university employees who wrote about traumas had fewer absences and improved liver enzyme function. Francis and Pennebaker (1992) proposed that translating emotional experience into language might result in cognitive changes that may mediate health improvements. Similarly, Krantz and Pennebaker (as cited in Pennebaker & Francis,1996) found grades and health improvement among students who expressed the traumatic experience in movement and writing compared to those who expressed it only using bodily movements or exercised in a predetermined manner. They also found that linguistic factors predicted better physical health. They reported that individuals who used more positive emotion words had better subsequent health. Esterling, L'Abate, Murray, and Pennebaker (1999) proposed that writing about an event helps to form an organized schema about that event, which then requires less effort to process and hence reduces stress.

An alternative explanation of the effect of expressive writing on psychological well-being is that expressive writing increases self-efficacy, which increases feelings of satisfaction and decreases stress. In explaining his theory of self-efficacy, Bandura (1997)

wrote, "In judging their capabilities, people rely partly on somatic information conveyed by physiological and emotional states" (p. 106). Thus one way of altering efficacy beliefs is through enhancing emotional well-being by reducing levels of stress and negative emotional inclinations (Bandura, 1997).

Lepore (1997) found that expressive writing reduced the negative emotional impact of stress-related intrusive thoughts. Thus, the evidence suggests that expressive writing reduces stress, but the mechanism that accounts for this reduction remains unclear. Forgas, Bower, and Moylan (1990) and Salovey and Birnbaum (1989) have shown that induced positive mood enhances perceived efficacy. That is, good mood can raise efficacy beliefs that in turn heighten motivation and a sense of personal accomplishment, thereby setting in motion an affirmative reciprocal process (Kavanagh, 1983). In his theory of self-efficacy, Bandura (1997) proposed that self-efficacy may be altered through changes in emotional arousal. Expressive writing may increase self-efficacy by reducing negative emotional arousal, which leads to reduced stress. Thus self-efficacy may mediate the relationship between expressive writing and stress. This study was designed to investigate this possibility.

Significance of the Study for Practice

Research shows that prospective teachers are anxious about their teaching practicum (Capel, 1997) and experience high levels of stress regarding the practicum (Atiken & Mildon, 1991; Kalekin-Fishman & Kornfeld, 1991; MacDonald, MacKinnon, Joyce, & Gurney, 1992; Morton, Vesco, Williams & Awender, 1997). Although prospective teachers have reported that the teaching practicum is the most stressful experience of their teacher education program (McDonald, 1992), few efforts to help

them cope with their stress have been conducted. One of the difficulties in identifying effective strategies for reducing prospective teachers' stress during the practicum is that the strategies must not add further stress.

If expressive writing is effective in increasing teachers' sense of efficacy and reducing burnout, it will be easy to implement in teacher education programs without incurring extra expenses or requiring modifications to the program. Also expressive writing can be easily implemented in privacy or while meeting with a supervisor. If a program can be successful in helping prospective teachers cope at this stage, then it is also likely to be successful at subsequent stages (beginning teachers and experienced teachers). Expressive writing may act as a source of relief from the pressures of life transitions and classroom teaching and may reduce stress and provide much needed support without requiring the involvement of others. Thus, expressive writing will provide a life long skill that prospective teachers can use to improve their lives and those of their students.

CHAPTER 2
REVIEW OF LITERATURE

The purpose of this section is to review literature relevant to this study. The literature review encompasses the following topics: (a) stress and burnout, (b) stress and burnout in prospective teachers, (c) expressive writing, and (d) teachers' sense of efficacy.

<u>Stress and Burnout</u>

Examination of the literature on stress shows that there is no consensus on a definition of stress. Selye (1956), a pioneer in the field of stress defined it as an adaptation to a threatening event. Selye (1974) later improved on this definition and defined stress as "the nonspecific response of the body to any demand made upon it" (p. 14). Lazarus (1986) defined stress as a system of interdependent variables rather than as a unidimensional variable. Lazarus (1986) also stated that stress depends on how the person appraises the environment, because the stress process is dependent upon the relationship between a particular person and a particular environment. This means that one cannot depend on normative ratings to assess stressful events. Stress is also dependent on a person's emotional state; thus, at times stress is considered to overlap with emotions. Dunham (1992), on the other hand, defined stress as "a process of behavioral, emotional, mental, and physical reactions caused by prolonged, increasing, or new pressures which are significantly greater than coping resources" (p. 3).

Like stress, burnout is plagued with definitional ambiguity (Farber, 1991; Maslach & Schaufeli, 1993). The difference between stress and burnout is in the duration of the distress. Burnout is the result of prolonged exposure to job stress (Etzion, 1987). According to Brill (1984), stress is due to an adaptation process that is temporary, whereas burnout occurs when one fails to adapt or there is a breakdown in adaptation. Thus burnout can be distinguished from stress on the basis of time (process) and not symptoms. Similarly, Wisniewski and Gargiulo (1997) identified the causes of professional burnout as frequent, intense, and prolonged levels of occupational stress.

  The term <u>burnout</u> has a social origin and was first used by Freudenberger (1974) after observing the phenomenon among volunteers involved in the human service profession. He defined burnout as a gradual emotional depletion and a loss of motivation and commitment experienced by people in the human service professions. Thus it denotes the inability to function effectively in one's job as a consequence of prolonged and extensive job-related stress. Early research on burnout was nonempirical. With the development of the Maslach Burnout Inventory (MBI, Maslach & Jackson, 1981a, 1981b, 1986) an empirical definition was given to burnout: "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people' work of some kind" (Maslach & Jackson, 1986, p. 1). Three components have emerged in the study of burnout by Maslach and Jackson (1981b). The first component is emotional exhaustion; that is, the extent to which the teacher feels that he or she has nothing left to give others on an emotional or psychological level. The second component is depersonalization, which refers to the psychological detachment and social distancing that disrupts both personal and

professional life. The third component identified by Maslach and Jackson is reduced

personal accomplishment, which refers to the feeling that one is no longer effective in

one's professional responsibilities with students, colleagues, or parents. Pines and

Aronson (1988) who adopted an existential perspective have emphasized that it is the

emotional exhaustion that defines burnout. Thus the definition of burnout is "a state of

physical, emotional, and mental exhaustion caused by long term involvement in

situations that are emotionally demanding" (Pines & Aronson, 1988, p. 9).

<div align="center">Prospective Teachers' Stress and Burnout</div>

Research has consistently shown that those in the helping professions, particularly

teachers, have significantly higher levels of stress (Gold & Roth, 1993) than individuals

in other occupations. Kyriacou and Sutcliffe (1977) defined teacher stress as a negative

response (such as anger, anxiety, or depression) made by the teacher to the demands of

teaching. Pettegrew and Wolf (1982) conceived of teacher stress as comprising role-

related stress, task-based stress, and environmental stress. Tosi and Tosi (1970), Aaron

(1976), and Edgarton (1977) viewed role-related stress as referring to contradictions

between the teacher's expectations of the role as a teacher and the actual work of a

teacher. These contradictions are due to role ambiguity, role conflict (Tosi & Tosi, 1970),

role overload (Cooper & Marshall, 1978; Kahn, Wolfe, Quinn, Sonek, & Rosenthal,

1964), and role preparedness (MacKinnon, 1978). Task-based stress refers to stress due

to performing a particular teaching task. Environmental stress refers to stress due to the

school environment in which the teacher works. In addition to these three types of stress,

Pettegrew and Wolf (1982) included management style (Taylor & Bowers, 1972), job

satisfaction, life satisfaction (Quinn & Shepard, 1974), social support (House 1981), and

illness symptoms (Indik, Seashore, & Slesinger, 1964) to better represent stress as a system of variables.

Stress is often considered an occupational hazard of the teaching profession (Pettegrew & Wolf, 1982). Stress in teaching has been well documented in the literature (Cole & Walker, 1989; Dunham, 1992; Kyriacou, 1987). Also teacher stress is not limited to a particular culture or country, as research throughout the world has shown that teacher stress is widespread (Borg & Riding, 1991, 1993; Farber, 1984; Fontana & Abouserie, 1993; Payne & Furnham, 1987; Solman & Feld, 1989).

Stress and burnout are of concern because they cause teachers to perform far below their potential (Hourcade, Parette, & McCormack, 1988) and to experience considerable difficulty in the execution of their professional responsibilities (Fimian, 1982). Thus teacher stress and burnout affect the learning environment and interfere with the achievement of educational goals (Farber, 1991; Jenkins & Calhoun, 1991). Also stress reduces teachers' enthusiasm and increases their desire to quit (Dworkin, 1987). Cole and Walker (1989), Farber (1991), and Swick and Hanley (1985) found occupational stress to be related to teacher attrition. Thus, research is needed to alleviate teachers' stress and burnout to enable them to function at their optimum and remain in the profession.

Stress in teaching begins as early as prospective teachers' first teaching experiences (Morton et al., 1997), as the inexperienced practitioner attempts to make the transition to becoming a teacher (Hopkins, Hoffman, & Moss, 1977). This transition often causes stress, because prospective teachers lack experience and are not sure of their own status (Sinclair & Nichol, 1981). Empirical findings indicate that high levels of stress are

evident during the teacher preparation process well before prospective teachers become teachers in their own classrooms (Erickson & Russ, 1967). Although those new to the profession need the support and guidance of more experienced educators, this support is rarely received (Johnson, Ratsoy, Holdaway, & Friesen, 1993).

Prospective teachers have also reported feelings of burnout (Gold & Bachelor, 1988; Gold & Michael, 1985). In teaching, burnout is a condition in which the stressors underlying emotional exhaustion, depersonalization, and personal accomplishment occur with such frequency and intensity that they seem insurmountable. Teachers then lose positive feelings towards their students and want to leave the profession. Teacher burnout is purportedly a function of stressors engendered at both the organizational and individual levels (Iwanicki, 1983). A common theme repeatedly expressed by teachers at the elementary and intermediate levels is the intense pressure they experience from trying to meet the demands of many masters--principals, parents, students, and school board officials (Byrne, 1991). They feel drained from being pulled in many directions, with little reward in the form of support or recognition. Prospective teachers experience similar pressure, as they have to please their cooperating teacher (school) and their supervisor (university).

Choy et al. (1993) and Darling-Hammond (1990) have reported that only about 60 to 70% of prospective teachers actually enter teaching after they graduate. Gray et al. (1993) have reported that only 76% of those qualified to teach applied for teaching jobs in 1990 and less than 58% taught full time. Among those who are prepared to teach, 30 to 50% leave teaching within their first 5 years. Jenkins and Calhoun (1991) cited stress as a major factor in teachers' leaving the profession. In a recent study, involving 1,576 Florida

special education teachers, Miller, Brownell, and Smith (1999) found that one of the
reason teachers left special education teaching was perceptions of high stress. As
Wisniewski and Gargiulo (1997) noted, "Over a period of time, the cumulative effect of
[stress] will influence a teacher's commitment to remain in the classroom and the
teaching profession" (p. 325).

Even though student teaching can be highly stressful, there is little evidence that
prospective teachers are prepared to cope with this stress (Gold, 1985). However,
relatively few investigators have examined how to reduce stress and burnout among
prospective teachers during the teaching practicum. Because the rate of stress is ever
increasing, a cost-effective, group-oriented yet individual method of treatment to reduce
stress among prospective teachers especially during their practice teaching is needed.
Expressive writing is one approach to reducing stress that is cost-effective and can be
used with groups while still meeting the individual needs of the prospective teachers to
reduce stress. Expressive writing has been extensively used (L'Abate, 1991) in other
fields but not investigated in the teaching profession.

<div align="center">Expressive Writing</div>

Research from different fields indicates that expressing one's feelings or emotions
through talking with one's friends, confiding to a therapist, praying, or writing can be
physically and mentally beneficial (Esterling et al., 1999; Esterling, Antoni, Kumar, &
Schneiderman, 1990; Murray, Lamin, & Carver, 1989). Expressive writing, also known
as disclosure writing or confessional writing, is one form of expression that has gained
popularity since the mid-1980s (Kalb, 1999); that is, ever since James Pennebaker, a
pioneer in the field of expressive writing, demonstrated empirically that such writing can

be therapeutic. In most expressive writing research, participants are asked to write for about 15 to 20 minutes a session for three or four sessions. The aim of expressive writing is to dig deeply into one's emotions and transfer them to paper through writing.

In a review of research on the relationship between stress and infectious disease, Cohen and Williamson (1991) provided extensive evidence that increased stress leads to health problems, especially those related to infectious illness. Pennebaker and his colleagues (Pennebaker & Beall, 1986; Pennebaker, Colder, & Sharp, 1990; Pennebaker & Francis, 1996) assumed that writing about stressful events reduces stress and hence stress-related diseases and visits to the health clinic (Cameron & Nicholls, 1998), and they have demonstrated that writing about stressful events can reduce visits to the physician's clinic. Pennebaker and Beall (1986) found that participants in the experimental group who had written about a traumatic event had a significant drop in physician visits in the following 6 months compared to those in the control group. Similarly, Greenberg and Stone (1992) reported results involving 60 healthy undergraduates. Their study showed that those who wrote about severe traumas experienced health benefits in the form of fewer physical symptoms in the 2 months following the disclosure compared to those in the control group. In two studies on susceptibilities to cold viruses, participants who developed cold symptoms after exposure to the cold viruses were more likely to have experienced major traumatic events and reported higher levels of stress than participants who did not develop cold symptoms (Cohen, Tyrrell, & Smith, 1991; Stone, Bovbjerg, Neale, & Napoli, 1992). Pennebaker (1989, 1993) has demonstrated that writing about stressful events also improves psychological well-being. In summarizing the research, Pennebaker (1997) concluded

that expressive writing in the long term improves mood and general well-being. Smyth (1996, 1998), who did a meta-analysis of 13 studies on expressive writing research, came to a similar conclusion that writing about deeply felt emotions significantly reduces distress. For example, in a study involving 81 university employees, Francis and Pennebaker (1992) found that participants who expressed their feelings through expressive writing showed a decrease in absenteeism compared to those who wrote on factual topics that included no feelings. In another study Pennebaker (1989) found less distress in the 3 months after writing in the experimental group that wrote on traumatic events compared to the control group who wrote on superficial topics.

Smyth (1998) in her meta-analysis also investigated whether the number of writing sessions, which ranged from 1 to 5, was related to the outcome (dependent variable). Her analysis showed that, there was no relation between the number of writing sessions and all types of outcome effect sizes. However no researcher has varied the number of writing sessions to see its effect on a specific outcome. There is a need for research to determine the effect of frequency of writing on psychological well-being.

Donnelly and Murray (1991) and Murray et al. (1989) compared expressive writing to psychotherapy, because writing seems to produce the same cathartic effect as traditional psychotherapy. In 1989, Murray et al. divided undergraduate participants into three groups. The first group wrote about trivial events; the second group wrote about traumatic events, and the third group talked to a therapist about a traumatic event for about 20 minutes over two sessions. By the end of the second session, psychotherapy showed greater effectiveness compared to the other two groups. However, both expressive writing and traditional psychotherapy resulted in improvements in cognition,

self-esteem, and adaptive behavior. Later Murray together with Donnelly in 1991 improved on the previous study by increasing the number of participants and sessions. Once again after four sessions both the expressive writing and traditional therapy group showed a reduction in negative emotion and an increase in self-esteem as well as adaptive changes in cognition and behavior. Later in 1994, to eliminate the interpersonal factor, Murray and Segal asked the participants to either speak for 20 minutes into a tape recorder or write for 20 minutes when no one was around. Once again both the writing and talking had similar therapeutic effects, and both groups showed positive changes when the content was analyzed. Thus these studies suggest that expressive writing is as effective as short-term traditional psychotherapy. As such it should provide a useful alternative to prospective teachers who may not have the time to go for traditional psychotherapy. Also it may be cost effective to include expressive writing in teacher education programs, as it may enhance the well-being of prospective teachers and eliminate their need for individual interpersonal therapy.

Of greatest relevance to this study, Lepore (1997) investigated whether expressive writing reduces psychological distress in people taking a graduate and professional school entrance exam. The study involved 74 examinees taking stressful examinations. Data for the study were collected through telephone interviews. The results indicated that the expressive writing group had fewer depressive symptoms 3 days prior to the exam compared to the group that wrote on factual information about the exam. From his research Lepore concluded that expressive writing reduces psychological distress associated with a stressful event that is about to occur in the near future. The stress before

an exam may be analogous to prospective teachers' experiencing stress before handling the whole class by themselves during student teaching.

In sum, research has shown that expressive writing benefits both psychological and physical health, but how writing about traumas produces the improvements is not clear. Several explanations and models have been put forward in the literature to explain how the benefits are brought about.

Pennebaker (1982) and Pennebaker and Beall (1986) proposed a theory of inhibition. This theory assumes that inhibition is an active process, thus holding back (not disclosing) thoughts, feelings, or behavior requires physiological work. If this inhibition is continued over a long time, stress accumulates, which results in an increase in stress-related diseases. Bootzin (1997) simplified this argument in the form of a linear chain: "(a) not talking about important psychological phenomena is a form of inhibition, (b) inhibition increases stress, (c) increased stress leads to health problems, (d) disclosure reduces inhibition, (e) reduced inhibition reduces stress, and (f) reduced stress leads to improved health outcomes" (p. 167). However this theory was shown to be inadequate by Greenberg and Stone (1992) through their experiment with 60 undergraduates. They assigned the participants randomly to three groups, undisclosed-trauma, previously disclosed-trauma, and a control group. The undisclosed group wrote about their most traumatic event, which they had not previously disclosed to others. The previously disclosed group was asked to write about their most traumatic event, which they had already discussed with others. The control group as usual wrote on trivial events. At the end of the experiment no significant differences were found in health improvements in the undisclosed and previously disclosed-trauma group. If the inhibition theory were

valid, then the undisclosed–trauma group would have benefited more compared to the other groups. Others have not replicated this experiment and thus caution should be taken before rejecting the inhibition theory, which has been popular in psychology since the time of Freud (Breuer & Freud, 1966).

Another model/explanation put forward by Pennebaker (1993) and Pennebaker and Francis (1996) is that writing in depth about their emotions gives the participants insight into their problem leading to a solution that relieves them of the stressful situation. That is, writing enables the participants to make sense of their traumatic experience and they are able to think of ways to resolve the conflict that is upsetting them (Cameron & Nicholls, 1998). According to this self-regulation perspective, not everyone is able to adopt effective coping strategies after writing about a traumatic event. Some get confused and keep pondering the experience, which inhibits development of effective coping strategies. In support of this perspective, Bucci (1995) and Pennebaker (1993) demonstrated that following expressive writing, some participants show no change, some show improvement, and some appear to get worse. Cameron and Nicholls (1998) attributed the difference to what the participants wrote. If they wrote something that enabled them to make sense of their traumatic experience and were able to think of ways to resolve the conflict, then the writing was therapeutic.

Recently, Pennebaker has directed his focus to a cognitive change model to explain the underlying mechanism of the effectiveness of expressive writing (Bootzin, 1997). Others too have attempted to connect the benefits of expressive writing to cognitive processing (Clark, 1993; Greenberg, Wortman, & Stone, 1996; Lepore, Silver, Wortman, & Wayment, 1996; Pennebaker, 1993, 1995; Tait & Silver, 1989). This perspective

suggests that emotional expression facilitates cognitive processing by forcing individuals to face the stressors and their consequences (Lepore, 1997). Cognitive processing theory suggests that negative emotions are a result of a discrepancy between external events (reality) and established self-views and world-views (Epstein, 1985, 1990; Marris, 1986; Wilson, 1989) or surpressed intended goals (Mandler, 1984; Martin & Tesser, 1989). Janoff-Bulman (1992) referred to these self-views and world-views as higher order schemata. Successfully accommodating or assimilating stressful information into these higher order schemata can result in fewer intrusive thoughts and therefore a reduction in stress (Horowitz, 1975, 1986). Also the accommodation process helps people to resolve the discrepancy between the existing schema and the new information conveyed in the stressors. Accommodation and assimilation can be facilitated by expressive writing (Pennebaker, 1989) or by expressing the stressful information to supportive others (Lepore et al., 1996).

Bootzin (1997) has suggested that the cognitive model is parallel to Cartwright's (1994) explanation that during dreams stressful experiences are integrated into existing cognitive systems. He suggested that in Pennebaker's (1995) cognitive model the integration takes place while awake through expressive writing.

The cognitive change model is based on the relationship of increases in causal and insight words to improved health. The evidence is correlational however, and thus a causal generalization cannot be made. Another weakness in most of Pennebaker's studies is his methodology. He does not assess initial differences among the participants. I have tried to overcome this weakness by including a pretest in my research design.

Bandura's theory of self-efficacy offers an alternative model of explaining the impact of expressive writing on stress and burnout. This model is described in the section that follows.

<u>Teachers' Sense of Efficacy</u>

Bandura (1997) defined self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). These beliefs make up a self-system, which mediates between knowledge and action: that is, the self-system determines the action people take and how much they persevere when the task becomes difficult. Self-efficacy beliefs are based on information conveyed by direct mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective experiences.

Gibson and Dembo (1984) and Ashton and Webb (1986) applied Bandura's (1977) theory to the construct of teachers' sense of efficacy, which comprises the constructs of general teaching efficacy (GTE), that is, the degree to which teachers believe that students can be taught, given such factors as family background, IQ, and school conditions, and personal teaching efficacy (PTE), that is, the conviction that one can successfully execute the behavior required to produce the desired outcome (Bandura, 1977). Numerous studies have supported this sharply drawn distinction between teaching or general teaching efficacy and personal or personal teaching efficacy (Gibson & Dembo, 1984; Pigge & Marso, 1993; Woolfolk & Hoy, 1990).

Much research has been conducted about the ways in which prospective teachers experience and adapt to their teaching practice (Atiken & Mildon, 1991; Kalekin-Fishman & Kornfeld, 1991; MacDonald, MacKinnon, Joyce, & Gurney, 1992; Morton,

Vesco, Williams & Awender, 1997). Prospective teachers' sense of efficacy is often based on their roles as students in elementary classrooms and knowledge gained in teacher education programs (Bullough, 1989). Knowles and Coles (1996) have emphasized that "preservice teachers often have well-rooted images of themselves as teachers and high ideals and aspirations for teaching, and they strive to enact or play out their personal images despite contextual realities that are often at odds with them" (p. 654). Bandura (1997) noted that unrealized expectations have a significant impact on human performance and organizational commitment. Accordingly, when schools create performance expectations but fail to provide relevant resources, teachers experience uncertainty. This uncertainty then becomes a source of anxiety and stress. Zabel, Boomer, and King (1984) developed an interactive model in which a mismatch between a teacher's expectations and professional experiences leads to a cycle of unsatisfying professional experiences, unpleasant feelings, and behavioral symptoms. Long and Duffner (1980) presented an interactive ecological model of pupil conflict, asserting that student behavior elicits strong emotional responses from the teacher that evolve into an accelerated cycle of interpersonal conflict. Hoy and Woolfolk (1990) compared three groups: (a) education students who were to have their teaching practice experience in the coming semester, (b) education students who were scheduled to practice teaching in a later semester, and (c) non-education majors enrolled in a psychology course. The authors found that the sense of general teaching efficacy of those who experienced classroom teaching declined, whereas the other two groups were unchanged. Hoy and Woolfolk suggested that the decline might have been due to the preservice teachers' reaction to their inability to control unruly pupils. To help prospective teachers prepare for these

contextual realities, researchers have attempted to enhance teachers' feelings of efficacy by modifying their preservice program.

Brosseau, Book, and Byers (1988) reported a decline in preservice teachers' feelings of general teaching efficacy after their initial teaching practice. Cannon (1992) found that even as feelings of general teaching efficacy declined, there was some evidence that personal teaching efficacy increased during preservice. According to Ross (1995), this increased confidence could be the result of teachers' recognizing that they were becoming more skilled in their craft.

Pigge and Marso (1993) compared a group of outstanding preservice teachers and a group of outstanding inservice teachers and found no significant difference on the variables of personal teaching efficacy and general teaching efficacy. However, when Campbell (1996) compared feelings of efficacy for preservice and inservice teachers in Scotland and America, he found a significant difference between the group of preservice and inservice teachers. The inservice teachers from both the countries scored higher on a scale measuring teachers' sense of efficacy than the preservice teachers.

In a study by Coladarci and Brenton (1991), teachers who found their supervision beneficial scored higher on perceptions of efficacy than teachers who were dissatisfied with their supervision. Similarly, Grafton (1993) found a positive correlation between beginning teachers' sense of efficacy and their perception that they were encouraged to experiment and try new things in their positions. Moore and Esselman (1994) found an increase in teacher efficacy attitudes to be related to a positive school atmosphere that focused on instruction, the reduction of barriers to teaching effectively, and classroom-based decision making.

Guyton, Fox, and Sisk (1991) found that an 8-week summer residency program followed by a 1-year supervised internship had no greater impact on teachers' perceptions of efficacy than did a traditional preservice program. On the other hand, in a study of involving 24 prospective elementary teachers, Volkman, Scheffler, and Dana (1992) investigated the effects of field-based reflective practice on prospective teachers' sense of efficacy. Twelve of the prospective teachers were assigned to the treatment group, and another 12 to the control group. The participants in the treatment group kept journals and met with the graduate teaching assistant after each lesson that was observed to make sense of the problematic situation. They also met biweekly with other prospective teachers in the treatment group to discuss problems and solutions. At the end of the 4-week experiment, the prospective teachers in the treatment group had higher scores on a measure of their sense of efficacy. The authors concluded that sharing experiences made the prospective teachers in the treatment group more efficacious. In a study by Sills (1993), participation in Outward Bound courses resulted in significant increases in teachers' sense of efficacy in female participants.

The research indicating decline in prospective teachers' sense of efficacy during student teaching demonstrates the need to develop strategies to increase their sense of efficacy and decrease their stress and burnout. Bandura's (1997) theory suggests that expressive writing may reduce stress and burnout by increasing feelings of efficacy.

Stress and burnout, as defined in the present research, are examples of sources of affective information for judging personal efficacy because they often accompany changes in quality of functioning. According to Bower (1983), past successes and failures are stored as memories along with their affect. These memories then form the source of

information for development of self-efficacy beliefs. Bandura (1988) has shown that high arousal weakens performance of complex skills, like teaching. Thus efficacy beliefs based on this weakened performance generate further stress and diminish beliefs in one's personal efficacy. Stress and burnout like depressed moods can lead one to judge oneself as inadequate and worthless (Teasdale, 1988). Perceived inadequacy is similar to perceived inefficacy; it intensifies and prolongs stress, as one feels one has no control over the situation. Thus when prospective teachers begin their teaching practice with perceived inefficacy, their stress is likely to increase. One way of altering efficacy beliefs is by developing interventions that reduce stress and negative emotions (Bandura, 1991; Cioffi, 1991).

In social cognitive theory, stress is conceived as a reaction to low sense of efficacy to deal effectively with environmental stressors and aversive threats (Bandura, 1997). Applying Bandura's theory to career development, McAteer-Early (1992) concluded that levels of stress are influenced by perceived self-efficacy to fulfill occupational demands. That is, stress occurs when task demands exceed individuals' perceived capability. Employees with a low sense of efficacy are easily stressed by heavy work demands (Jex & Gudanowski, 1992). Prolonged stress or chronic stressors in emotionally taxing situations like the teaching practicum can give rise to burnout (Maslach, 1982). Thus from the perspective of self-efficacy theory, prevention and reduction of stress requires a change in the individual's feelings of self-efficacy (Rosenthal & Rosenthal, 1985). The next paragraph describes how expressive writing may effect such a change in efficacy attitudes.

Pennebaker and his colleagues have shown that expressive writing improves physiological and psychological well-being (Pennebaker & Beall, 1986; Pennebaker et al., 1990; Pennebaker & Francis, 1996). It is hence proposed that expressive writing as an intervention may reduce emotional arousal. High levels of emotional arousal are viewed as disrupting (Brehmer, 1980; Brehmer & Joyce, 1988; Hammond, McClelland, & Mumpower, 1980). It is hypothesized that reducing emotional arousal will increase sense of efficacy and hence reduce stress and burnout. Leland (1983) has shown that perceived self-efficacy predicted how anxious players felt before an athletic competition. Similarly Krampen (1988) has shown that perceived capability predicted test anxiety. It is hoped that with expressive writing we will raise the sense of efficacy of prospective teachers and thereby reduce stress, burnout, and dissatisfaction with teaching. To guide my research I have conceptualized a model that posits teachers' sense of efficacy as a mediator of the relationship between expressive writing and stress, burnout, and satisfaction with teaching. Using a path framework developed by Esterling et al. (1999) to model the impact of expressive writing, I have illustrated this mediational model in Figure 1.
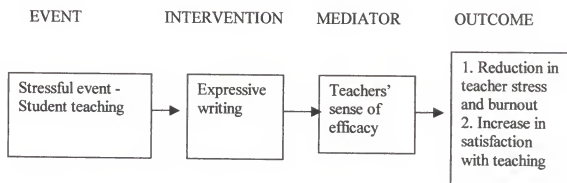
Figure 1. A mediational model of the impact of expressive writing.

CHAPTER 3
METHODOLOGY

This chapter contains a description of the design used in this study. First I discuss the selection of participants, followed by the procedures used to collect data, including how the preintern field advisors were trained to conduct the research. This is followed by a description of the measures used in the study, and finally I explain how the data collected were analyzed.

Participants

The participants were 143 university students from the teacher education program at the University of Florida who were doing their preinternship in the elementary schools in north central Florida. All participants were recruited on a voluntary basis. Prior to recruiting the participants, permission to conduct the research was obtained from the University of Florida Institutional Review Board. A copy of this permission (see Appendix A) was given to all participants. Participants also signed a consent form (see Appendix A) saying that they took part in the research voluntarily.

Procedure

Training Phase

The experiment was conducted during the fall academic semester. At the beginning of the semester before the writing session began, a meeting was held with the preintern field advisors. They were briefed on how to conduct the experiment. During the training, envelopes containing the writing protocols and questionnaires were distributed. Each

envelope contained instructions on how to conduct the experiment during each phase
(Appendix B). A sample of all the material was reviewed, and questions from the
preintern field advisors were answered.

<u>Pretest Phase</u>

One week before the writing phase (i.e., the 5th week of the preinternship), the
participants completed the Teacher Efficacy Scale (Gibson & Dembo, 1984), the
Educators Survey (Maslach, Jackson, & Schwab, 1986), and the Teacher Stress Scale
(Pettegrew & Wolf, 1982) during their seminar class.

<u>Writing Phase</u>

The preintern field advisors met with their preinterns in their usual seminar class on
campus at the University of Florida. The preintern field advisor distributed the instruction
sheets (writing protocol) so that every other student received the experimental
instructions and the other student received the control group instructions. To maintain
random assignment, the preintern field advisors distributed the writing protocol according
to the list provided in the envelope. The preintern field advisor answered any questions
regarding the experiment before the preinterns began writing. Once everybody was ready,
the preintern field advisor instructed the preinterns to begin writing and to write
continuously for the next 20 minutes. At the end of the 20 minutes, the preinterns placed
their writing in an envelope, and they sealed it to assure confidentiality. Then the
preinterns placed their envelope in a box that I provided to the preintern field advisors.
To further maintain confidentiality each preintern only wrote the last four digits of his or
her social security number, that was used throughout the study to match their pretest,
writing samples, and posttest rather than their names or whole social security numbers.

Following the 20-minute writing session, each participant completed a questionnaire designed to test the writing manipulation. One week later a second writing session was conducted.

The writing sessions began on the 6th week of preinternship and ended on the 7th week of the preinternship. Half of the initial experimental group received control instructions during the second writing sessions to determine whether frequency of writing about emotions influenced the results.

The writing manipulation followed the standard protocol established by Pennebaker (1989). Although Pennebaker (1997) recommended three to four sessions of writing, one group of students wrote about their emotions on two occasions and another wrote only once about their emotions to determine if two occasions of writing had a stronger effect than one occasion. I was trying to determine if Lepore's (1997) method of writing on only one occasion can produce similar results in other settings.

Writing Manipulation

Experimental participants were given the following instructions in writing:

During today's writing sessions, I want you to write about your very deepest thoughts and feelings about your teaching practice (preinternship). In your writing try to let yourself go and write continuously for 20 minutes about your emotions and thoughts related to teaching, classroom management, transitions, your cooperating teacher, role ambiguity, role conflict, or about anything that concerns your preinternship. The important thing is that you dig down into your deepest emotions and explore them in your writing.

Control participants were given the following instructions in writing:

During today's writing session, I want you to describe in detail your present preinternship. In your writing for the next 20 minutes please include how you go to school and the procedure for checking in once you are in school. Then describe in detail your classroom, how it is arranged, the things on the wall, your students, the classroom rules, etc. It is important that you describe the exact facts. Do not

mention your own emotions, feelings, or opinion. Your description should be as detailed and as objective as possible.

Posttest Phase

Nine weeks after the writing phase was completed (i.e., the 17th week of the preinternship), the participants completed the Teacher Efficacy Scale (TES, Gibson & Dembo, 1984), the Educators Survey (ES, Maslach, Jackson, & Schwab, 1986), and the Teacher Stress Scale (TSS; Pettegrew & Wolf, 1982) at one sitting. At the last session participants were also debriefed about the purpose of the study.

Measures

Manipulation Check

Immediately after the writing task, participants completed a brief questionnaire designed to test whether the expressive writing were successful in motivating the prospective teachers to write about personally meaningful emotions. Using the manipulation check developed by Lepore (1997), participants were asked to indicate the extent to which their writing was "meaningful, personal, and revealing of your emotions" on a 7-point scale (1 = not at all, 7 = a great deal).

Teachers' Sense of Efficacy

Teachers' efficacy beliefs were measured in initial studies by means of two items developed by the Rand Corporation (Armor et al., 1976; Berman & McLaughlin, 1977). A more comprehensive instrument has been developed since then, and it was employed. The teaching efficacy and personal teaching beliefs of each participant were measured using the Teacher Efficacy Scale developed by Gibson and Dembo (1984). A 6-point Likert scale format (1= strongly disagree to 6= strongly agree) was used to measure prospective teachers' level of agreement with each statement. Gibson and Dembo

obtained Cronbach's alpha coefficients of .78 for the 9 items in Personal Teaching

Efficacy factor, .75 for the 7 items in Teaching Efficacy factor, and .79 for the total 16

items.

Burnout

The Emotional Exhaustion subscale (EES) of the Educators Survey (Maslach,

Jackson, & Schwab, 1986) was used to measure burnout. The EES consists of nine items

and is used to assess feelings of being emotionally over-extended, exhausted, and unable

to meet the interpersonal demands of one's work. A 7-point Likert scale was used to

measure the respondent's experience (1= Never to 7= every day). Internal consistency

estimates of reliability for the EES has ranged from .89 to .90 (Gold, Bachelor, &

Michael, 1989; Iwanicki & Schwab, 1981).

Stress

The Teacher Stress Scale (TSS; Pettegrew & Wolf, 1982) was used to measure

stress. The TSS consists of 13 subscales. Eight of these subscales were used to measure

role ambiguity, role overload, role conflict, role preparedness, job satisfaction, life

satisfaction, task stress, and illness symptoms. All subscales of the TSS each comprise

five items except for illness symptoms, which comprises four items. All the items are

based on a 6-point Likert scale (1= strongly disagree to 6= strongly agree). Pettegrew and

Wolf (1982) reported a Cronbach's coefficient alpha of .79 for role ambiguity, .76 for

role overload, .82 for role conflict, .57 for role preparedness, .86 for job satisfaction, .91

for life satisfaction, .84 for task stress, and .82 for illness symptoms.

<div align="center">Data Analysis</div>

The essay evaluation measure (manipulation check) was averaged across the 2 weeks (2 times) to provide a mean rating for each evaluation dimension, and between group differences were assessed using one-way analysis of covariance (ANCOVA). Analysis of covariance (ANCOVA) with pretest as the covariate was used to test the effect of expressive writing on teachers' sense of efficacy, stress, burnout, and satisfaction with teaching.

CHAPTER 4
RESULTS

The purpose of this study was to examine the impact of expressive writing on prospective teachers' sense of efficacy, stress, burnout, and satisfaction with teaching. Specifically, I designed this study to see if there would be a decrease in stress and burnout and an increase in sense of efficacy and satisfaction with teaching among prospective teachers who disclosed their deeply felt experience of the preinternship through expressive writing compared to those who wrote on factual events. Chapter four presents the procedures for data analysis and findings of the data analysis.

To assess the effectiveness of expressive writing intervention, the pre- and posttest data were analyzed using ANCOVA. Three dependent measures consisting of 11 variables and 64 items were used to gather data related to the effects of expressive writing. The three dependent measures were the Teacher Efficacy Scale (Gibson & Dembo, 1984), the Teacher Stress Scale (Pettegrew & Wolf, 1982), and the Emotional Exhaustion subscale of the Educators Survey (Maslach, Jackson, & Schwab, 1986). Data on the three dependent measures were collected using an experimental research design. Prospective teachers were randomly assigned to two treatment groups and a control group.

Descriptive Data

The experimental research design consisted of a pretest, two interventions, and a posttest. At the time of the experiment 146 preinterns were attending the Proteach

Program at the College of Education, at University of Florida. One hundred twenty-four

preinterns (85%) consented to participate in the study, only 97 (78%) completed all four

phases of the experiment and wrote their identification number on the response sheet for

each of the four phases of the experiment. In the final analysis, only 86 (89%) of the

eligible participants were included as those with missing data were dropped.

Table 1 provides demographic information for all the participants included in the

final analysis. Tables 2, 3, and 4 present the means and standard deviations of all the

variables for each treatment and control group. During the first writing session the

participants were randomly assigned to an expressive writing (experimental) group and a

control group. Half of the initial expressive writing group received control instructions

during the second writing session to determine whether frequency of writing about

emotions influenced the results. This procedure resulted in a smaller number of

participants in the two expressive writing groups compared to the control group. In the

final analysis the two-expressive-writing group had 26 participants, the one-expressive-

writing group had 20 participants, and the control group had 40 participants.

Females (N=76 or 88.4%) outnumbered the males (N=10 or 11.6%) as in most

elementary-school teacher educator programs. The majority of the participants (76.7%)

were between the ages of 21 to 23, which is similar to Gold and Roth's (1993) findings

that most prospective teachers are in their early 20s. Most of the participants (86%) were

not married and had less than one year of teaching experience (81.4%). The majority of

the participants (83.7%) were enrolled in the Bachelor's program, and the remaining

(16.3%) were enrolled in the Master's program.

Table 1

Demographic Data of Participants

Variable	Frequency	Percent
Gender		
Female	76	88.4
Male	10	11.6
Age		
Below 20	10	11.6
21 – 23	66	76.7
24 – 26	5	5.8
27 – 29	4	4.7
30 – 34	1	1.2
Marital Status		
Single	74	86.0
Married	8	9.3
Divorced	1	1.2
Other	3	3.5
Program		
Bachelor's degree	72	83.7
Master's degree	14	16.3

Table 1--continued

Demographic Data of Participants

Variable	Frequency	Percent
Teaching Experience		
Less than 1 year	70	81.4
1 year	10	11.6
2 years	2	2.3
3 years	2	2.3
4 years	2	2.3
Grade Teaching		
K	16	18.6
1	9	10.5
2	13	15.1
3	16	18.6
4	17	19.8
5	10	11.6
6	2	2.3
7	2	2.3
8	1	1.2

Table 2

Descriptive Data on Pre- and Posttest Continuous Variables for the Two-Expressive-Writings Group

Variable	Pretest			Posttest		
	$\underline{N}$	$\underline{M}$	$\underline{SD}$	$\underline{N}$	$\underline{M}$	$\underline{SD}$
Teacher Efficacy Scale						
Personal Teaching Efficacy	26	30.11	4.58	26	32.04	4.91
Teaching Efficacy	26	16.88	5.41	26	18.11	5.22
Teacher Stress Scale						
Role Ambiguity	26	12.46	5.41	26	9.73	5.45
Role Overload	26	8.30	4.44	26	9.04	5.72
Role Conflict	26	7.08	5.00	26	8.69	5.33
Role Preparedness	26	19.46	3.61	26	21.12	3.25
Job Satisfaction	26	21.61	3.77	26	22.19	3.71
Life Satisfaction	26	23.50	3.66	26	23.38	3.06
Task Stress	26	10.31	4.26	26	9.92	4.43
Illness Symptoms	26	5.15	4.20	26	4.61	3.98
Educators Survey						
Emotional Exhaustion	26	11.85	10.41	26	14.80	12.28

Table 3

Descriptive Data on Pre- and Posttest Continuous Variables for the One-Expressive-Writing Group

Variable	Pretest			Posttest		
	$\underline{N}$	$\underline{M}$	$\underline{SD}$	$\underline{N}$	$\underline{M}$	$\underline{SD}$
Teacher Efficacy Scale						
Personal Teaching Efficacy	20	31.00	3.95	20	29.75	5.66
Teaching Efficacy	20	15.85	4.34	20	15.95	5.06
Teacher Stress Scale						
Role Ambiguity	20	10.05	4.05	20	9.15	4.38
Role Overload	20	6.65	4.10	20	8.10	4.17
Role Conflict	20	6.40	4.19	20	5.40	3.82
Role Preparedness	20	20.95	2.78	20	20.65	3.29
Job Satisfaction	20	21.75	3.48	20	21.30	4.27
Life Satisfaction	20	24.60	2.28	20	23.35	4.49
Task Stress	20	9.30	2.92	20	9.85	4.20
Illness Symptoms	20	5.65	4.12	20	5.35	4.83
Educators Survey						
Emotional Exhaustion	20	10.25	9.30	20	10.40	10.86

Table 4

Descriptive Data on Pre- and Posttest Continuous Variables for the Control Group

Variable	Pretest			Posttest		
	$\underline{N}$	$\underline{M}$	$\underline{SD}$	$\underline{N}$	$\underline{M}$	$\underline{SD}$
Teacher Efficacy Scale						
Personal Teaching Efficacy	40	29.85	4.55	40	30.63	4.41
Teaching Efficacy	40	18.53	5.10	40	19.08	4.94
Teacher Stress Scale						
Role Ambiguity	40	11.68	4.30	40	10.80	5.01
Role Overload	40	9.68	5.61	40	9.93	6.00
Role Conflict	40	8.43	5.33	40	9.05	5.80
Role Preparedness	40	19.40	4.27	40	19.58	3.44
Job Satisfaction	40	20.45	3.98	40	20.50	4.35
Life Satisfaction	40	22.83	4.44	40	23.00	3.93
Task Stress	40	10.95	4.45	40	10.38	5.27
Illness Symptoms	40	5.88	3.47	40	5.07	3.96
Educators Survey						
Emotional Exhaustion	40	14.05	10.55	40	13.78	12.41

Manipulation Check on Essay Content

To determine whether the experimental manipulation was successful, one-way analyses of variance were computed for the participants' ratings of the essays in the experimental and control group. As shown in Table 5, participants in the treatment groups reported their essays were more personal, revealed more emotions, and were more meaningful compared to the control group (all $ps = .0001$).

Table 5

Manipulation Check on Essay Content

Variable	2-expressive-writings group	1-expressive-writing group	control group		
	M	M	M	F	p
Rating of essay as personal	5.21	4.75	3.31	14.03	.0001
Rating of essay as revealing of emotions	5.15	4.72	2.65	27.63	.0001
Rating of essay as meaningful	5.06	3.70	1.78	87.61	.0001

Data Analysis Using Analysis of Covariance (ANCOVA)

Assumptions for the use of ANCOVA as a statistical analysis tool were checked and met. Assumption of independence was met by random assignment and making sure no discussion took place during the treatment. The assumption for measurement error was satisfied by using reliable measures and calculating internal consistency. All

variables had values of alpha greater than .7, (see Table 6) an acceptable value in social science research. The assumption of equal variances was tested using ANOVA to see if they were significant. Results of the ANOVA indicate that randomization was successful. The assumptions of linearity, normality, and equal homoscedasticity were checked by looking at the plots for each variable. The plots satisfied all three assumptions.

ANCOVA was chosen to increase power as it allows for control of initial differences between groups on the variable of interest (Gall, Borg, & Gall, 1996). ANCOVA adjusts data on the posttest variable based on the pretest scores. Pretest scores on all variables were used as covariates. Pretest variables were considered as suitable covariates as they correlated significantly ($p<.01$) with the posttest variables. Correlations between pre- and posttest variables were higher than .5 except for task stress (.47), burnout (.46), and role conflict (.29).

The first step carried out in the ANCOVA was to test for the interaction between the covariate and the treatment. This step was to answer the question whether the treatment effect depended on the pretest level of the variable of interest. If an interaction was observed, the effect was explained using a graph and comparison of slopes. To test the interaction between the covariate and treatment the full model was used. If no significant interaction was observed then the ANCOVA was carried out using the reduced model. The full and the reduced model are as shown below.

Table 6

Cronbach Coefficient Alpha For All Dependent Variables

Variable	Alpha
Teacher Efficacy Scale	
Personal Teaching Efficacy	.73
Teaching Efficacy	.73
Teacher Stress Scale	
Role Ambiguity	.78
Role Overload	.78
Role Conflict	.78
Role Preparedness	.76
Job Satisfaction	.78
Life Satisfaction	.80
Task Stress	.74
Illness Symptoms	.74
Educators Survey	
Emotional Exhaustion	.78

Full model as used in ANCOVA

$$Y = \alpha + \beta X + \delta_1 Z_1 + \delta_2 Z_2 + \Upsilon_1 X Z_1 + \Upsilon_2 X Z_2 + \varepsilon$$

Reduced model as used in ANCOVA

$$Y = \alpha + \beta X + \delta_1 Z_1 + \delta_2 Z_2 + \varepsilon$$

where

Y = posttest variable

X = pretest variable

$Z_1 = 1$ for two expressive writing; 0 otherwise

$Z_2 = 1$ for one expressive writing; 0 otherwise

δ_1 = intercept comparison between the two-expressive writings group and control group

δ_2 = intercept comparison between the one-expressive writing group and control group

Υ_1 = slope comparison between the two-expressive writings group and control group

Υ_2 = slope comparison between the one-expressive writing group and control group

Tests of Hypotheses 1 and 2

Hypothesis 1. Prospective teachers who disclose their deeply felt experience of the internship through expressive writing will report less stress as indicated by the Teacher Stress Scale (Pettegrew & Wolf, 1982), less burnout as indicated by the Educators Survey (Maslach, Jackson, & Schwab, 1986), a stronger sense of efficacy, as measured by the Gibson and Dembo (1984) Teacher Efficacy Scale, and greater satisfaction with teaching profession than those prospective teachers who will write about factual events.

Hypothesis 2. Frequency of expressive writing will have an impact on prospective teachers' sense of efficacy, stress, or burnout.

These two hypotheses were tested using ANCOVA as shown below.

ANCOVA for Personal Teaching Efficacy

The interaction of the treatment by pretest measure of personal teaching efficacy was not significant, $F(2,80)=.76$, $p=.469$. Although there was no significant difference among the two treatment groups and the control group, $F(2,82)=2.93$, $p=.059$, there was a trend towards significance; consequently, further analysis was carried out. The comparisons of the two expressive writing groups with the control group indicated no significant difference but the comparison between the two treatment groups was significant, $F(1,82)=5.86$, $p=.018$. That is, the personal teaching efficacy scores for the prospective teachers in the two-expressive-writings group were significantly higher than the personal teaching efficacy scores of the prospective teachers in the one-expressive-writing group (see Table 7).

Table 7

Summary of Multiple Comparisons of Adjusted Means for Personal Teaching Efficacy

Group	Adjusted means
Two-expressive-writings group	32.09_a
One-expressive-writing group	29.23_b
Control group	30.85_{ab}

Note. Adjusted means with common subscript are not significantly different at $p < .05$.

ANCOVA for Teaching Efficacy

The interaction of the treatment by pretest measure of teaching efficacy was not significant, $F(2,80)=.94$, $p=.394$. There was also no significant difference among the two

treatment groups and the control group, $\underline{F}(2,82)=1.10$, $\underline{p}=.338$. That is, teaching efficacy scores for the prospective teachers in the two treatment groups were not significantly higher than the control group, and the scores of the two-expressive-writings group were not significantly higher than the one-expressive-writing group.

ANCOVA for Role Ambiguity

The interaction of the treatment by pretest measure of role ambiguity was not significant, $\underline{F}(2,80)=.56$, $\underline{p}=.573$. There was also no significant difference among the two treatment groups and the control group, $\underline{F}(2,82)=.71$, $\underline{p}=.495$. That is, role ambiguity scores for the prospective teachers in the two treatment groups were not significantly lower than the control group, and the scores of the two-expressive-writings group were not significantly lower than the one-expressive-writing group.

ANCOVA for Role Overload

The interaction between the treatment and pretest measure of role overload was significant, $\underline{F}(2,80)=3.89$, $\underline{p}=.025$. The comparison of the two-expressive-writings group and the control group (see Table 8) did not reveal a significant interaction with the pretest measure of role overload, $\underline{t}(80)=-.07$, $\underline{p}=.944$. The comparison of the one-expressive-writing group and the control group did show a significant interaction with the pretest measure of role overload, $\underline{t}(80)=-2.72$, $\underline{p}=.008$, as did the comparison of the two treatment groups, $\underline{t}(80)=2.33$, $\underline{p}=.023$. From the graph (Figure 2) we see that the prospective teachers who disclosed their feelings through expressive writing on one occasion for 20 minutes showed a large treatment effect if they had a pretest score for role overload of more than 7 (vertical separation of the regression line between the control group and the one-expressive-writing group). The graph shows lower posttest scores of role overload

for those with a pretest role overload score of more than 7. That is, the treatment was more effective for those feeling initial stress due to high role overload. However, from the graph we see that for the two-expressive-writings group the posttest scores on role overload were higher, when the pretest scores on role overload were higher.

Table 8

Summary of Multiple Comparisons of Slope for Role Overload

Group	Slope
Two-expressive-writings group	.68$_a$
One-expressive-writing group	-.10
Control group	.70$_a$

Note. Slopes with common subscript are not significantly different at $p < .05$.

ANCOVA for Role Conflict

The interaction between the treatment and the pretest measure of role conflict was significant, $F(2,80)=3.27$, $p=.043$. The comparison of the two writing groups and the control group did not show a significant interaction with the pretest measure of role conflict, $t(80)=-1.72$, $p=.090$, and the comparison of the two treatment groups did not show an interaction, $t(80)=.86$, $p=.392$. However, the comparison of one-expressive writing with the control treatment (see Table 9) did show an interaction with the pretest measure of role conflict, $t(80)=-2.31$, $p=.024$. From the graph (Figure 3) it is evident that the prospective teachers who disclosed their feelings through expressive writing on one occasion for 20 minutes showed a larger treatment effect if they had a pretest score on
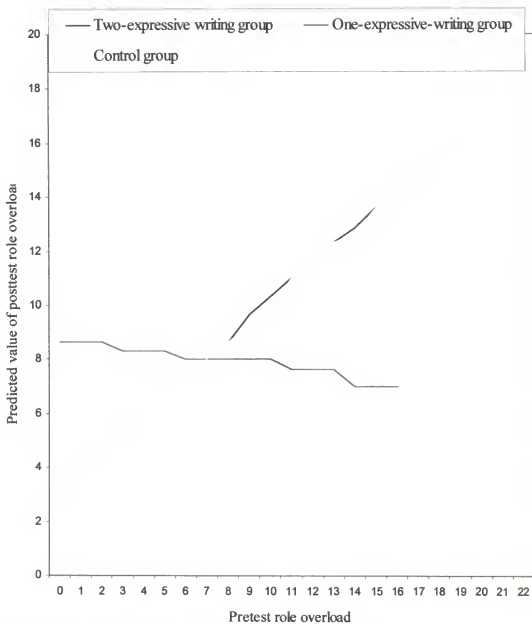
Figure 2. Graph of expressive writing by role overload interaction.

role conflict of more than 3 (vertical separation of the regression line between the control group and the one-expressive-writing group). The graph showed that posttest scores on role conflict were lower for those with a pretest score on role conflict of more than 3 for the one-writing group. That is, one expressive writing reduced stress due to role conflict for those with initially high scores on role conflict. However, the treatment had the opposite effect for the prospective teachers who disclosed their feelings through expressive writings on two occasions for 20 minutes each. This group showed an increase in the posttest scores of role conflict for those having a pretest score on role conflict of more than 9.

Table 9

Summary of Multiple Comparisons of Slope for Role Conflict

Group	Slope
Two-expressive-writings group	$.35_{ab}$
One-expressive-writing group	$-.12_b$
Control group	$.57_a$

Note. Slopes with common subscript are not significantly different at $p < .05$.

ANCOVA for Role Preparedness

The treatment by pretest measure of role preparedness interaction was not significant, $F(2,80)=1.72$, $p=.185$. There was no significant difference among the two treatment groups and the control group, $F(2,82)=1.92$, $p=.153$. That is, prospective teachers' scores on role preparedness did not differ as a function of their writing group.
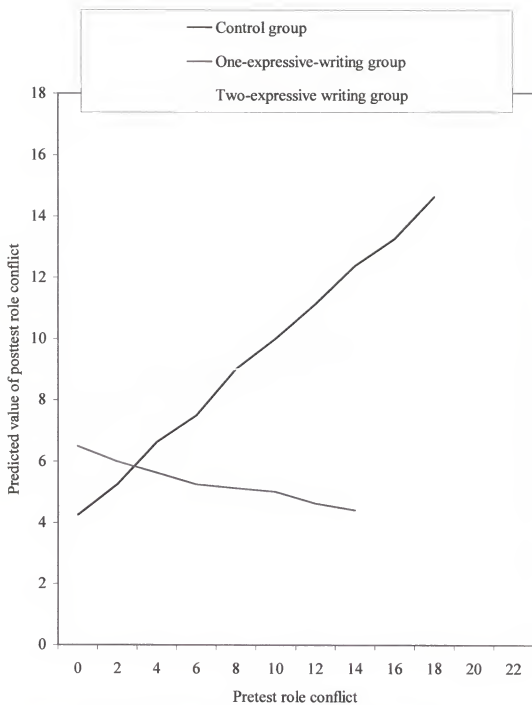
Figure 3. Graph of expressive writing by role conflict interaction.

ANCOVA for Job Satisfaction

The interaction of the treatment by pretest measure of job satisfaction was not significant, $F(2,80)=.24$, $p=.784$. There was also no significant difference among the two treatment groups and the control group, $F(2,82)=.74$, $p=.481$. That is, prospective teachers' scores on job satisfaction did not differ as a function of their writing group.

ANCOVA for Life Satisfaction

The interaction of the treatment by pretest measure of life satisfaction was not significant, $F(2,80)=1.60$, $p=.209$. There was also no significant difference among the two treatment groups and the control group, $F(2,82)=.33$, $p=.721$. That is, prospective teachers' scores on life satisfaction did not differ as a function of their writing group.

ANCOVA for Task Stress

The interaction of the treatment by pretest measure of task stress was not significant, $F(2,80)=.21$, $p=.808$. There was also no significant difference among the two treatment groups and the control group, $F(2,82)=.06$, $p=.944$. That is, prospective teachers' scores on task stress did not differ as a function of their writing group.

ANCOVA for Illness Symptoms

The interaction of the treatment by pretest measure of illness symptoms was not significant, $F(2,80)=.21$, $p=.815$. There was also no significant difference among the two treatment groups and the control group, $F(2,82)=.12$, $p=.884$. That is, prospective teachers' scores on the measure of illness symptoms did not differ as a function of the writing group to which they were assigned.

ANCOVA for Emotional Exhaustion (Burnout)

The treatment by pretest measure of emotional exhaustion interaction was not significant, $F(2,80)=.52$, $p=.594$. There was also no significant difference among the two treatment groups and the control group, $F(2,82)=.74$, $p=.482$. That is, prospective teachers' scores on emotional exhaustion did not differ as a function of the writing group to which they were assigned.

Test of Hypothesis 3

Hypothesis 3. Teachers' sense of efficacy mediates the relationship between expressive writing and stress and burnout.

This hypothesis could not be tested because there was no significant relationship between expressive writing and teachers' sense of efficacy (all $ps>.5$). Similarly there was no significant relationship between expressive writing and stress and burnout (all $ps>.5$). Thus path analysis as proposed was not carried out because the hypothesized relationships were not obtained.

CHAPTER 5
DISCUSSION AND CONCLUSION

Research has shown that writing about traumatic experiences for 3 to 5 days, for as little as 10 minutes per day, reduced physician visits (Pennebaker & Beall, 1986; Pennebaker et al., 1988), improved immune function (Esterling et al., 1994; Pennebaker et al., 1988; Petrie, Booth et al., 1995), improved college students' grades (Pennebaker et al., 1990), and enabled individuals who had been unemployed to secure new jobs more quickly (Spera et al., 1994). This study sought to broaden the scope of such expressive writing as practiced by Pennebaker and his colleagues to prospective teachers and to investigate a potential explanatory mechanism to account for changes in stress and burnout. Specifically the present study was designed to investigate (a) whether expressive writing reduced stress and burnout among prospective teachers and increased their sense of efficacy and satisfaction with teaching profession, (b) whether frequency of writing increased the impact of expressive writing on stress and burnout, and (c) whether teachers' sense of efficacy mediated the relationship between expressive writing and stress, burnout, and satisfaction among prospective teachers. This investigation was based on Lepore (1997), Pennebaker (1989, 1993), and Smyth's (1998) conclusion that expressive writing about stressful events improves physical and psychological well-being and Bandura's (1997) theory of self-efficacy. Post hoc analysis was also carried out to determine whether the treatment manipulation was effective, resulting in the participants' in the treatment group reporting that their essays were more personal, emotional, and

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meaningful than those written by the control group. In the next section of this chapter I discuss the success of the treatment (expressive writing) manipulation, followed by a description of the limitations of the study, directions for future research, and conclusions.

Success of the Treatment

The manipulation check indicated that the experimental treatments were successful in motivating the prospective teachers to write about personally meaningful emotions. The hypotheses that prospective teachers who disclose their deeply felt experience of the preinternship through expressive writing report less stress as indicated by the Teacher Stress Scale (Pettegrew & Wolf, 1982), less burnout as indicated by the Educators Survey (Maslach, Jackson, & Schwab, 1986), a stronger sense of efficacy, as measured by the Gibson and Dembo (1984) Teacher Efficacy Scale, and greater satisfaction with the teaching profession than those prospective teachers who write about factual events were not supported. There was a trend toward significance for perceived personal teaching efficacy, suggesting that prospective teachers who wrote for two sessions were more likely to experience an increase in their confidence that they could be effective in motivating their students to learn than were teachers who wrote for only one session. In addition, there was a significant interaction between the pretest and the treatments for two of the stress variables: role overload and role conflict. The prospective teachers in the one-expressive writing group who had pretest scores over 7 on the role overload measure had lower scores on the role overload posttest. The opposite effect was observed in the two-expressive-writings group. The prospective teachers in that group who had higher pretest scores on role overload had higher posttest scores on role overload. The results for the interaction between the pretest and treatments was similar

for the role conflict measure. The prospective teachers in the one-expressive-writing
group who scored higher than three on the role conflict pretest benefited more from
expressive writing than teachers with a lower score on role conflict. As in the role
overload interaction, prospective teachers in the two-expressive-writings group who
scored more than 9 on the role conflict pretest had higher role conflict scores on the
posttest than those with lower scores on the pretest.

The failure to find significant effects for the treatments on teachers' sense of
efficacy, stress, burnout, or satisfaction with teaching appears to be due primarily to the
lack of significant levels of stress in the three groups. The pretest means in the present
study indicate that most groups reported experiencing little stress, for example out of a
maximum score of 25 the two-expressive writings group only had a mean of 12.46 for
role ambiguity, 8.30 for role overload, 7.08 for role conflict, 10.31 for task stress, and
5.15 (maximum score 20) for illness symptoms. Similarly of a maximum score of 25 the
participants scored high on role preparedness (19.46), and life satisfaction (23.50).
Satisfaction with teaching was also high in all three groups. The two-expressive writing
group had a pretest score of 21.61, the one-expressive writing group had a pretest score
of 21.75 and the control group had a pretest score of 20.45. All the participants were
already satisfied with the teaching job, leaving little possibility of gain from the
expressive writing. Most of the prospective teachers showed almost no signs of burnout
on the pretest measure of emotional exhaustion. Consequently, it is not surprising that the
treatment did not have any significant effect on emotional exhaustion.

The interactions between the pretest and the writing treatments for role overload
and role conflict are an important finding of the study, because they suggest that

expressive writing is only therapeutic for those experiencing stress above a certain level. The contradictory interaction effects for the two writing groups are interesting because they suggest that prospective teachers in the two-expressive-writings group with high scores for role overload and role conflict might have felt greater stress when asked to write twice about their deepest feelings about stressful events. Further research to determine whether two writings versus one writing is counterproductive or whether these conflicting effects are simply chance occurrences is needed. It seems possible that two writings could add rather than reduce stress for those experiencing considerable stress, but this result has not been reported in previous research.

The second hypothesis stating that frequency of expressive writing would have an impact on prospective teachers' sense of efficacy, stress, or burnout was rejected, as there was no significant difference between the two treatment groups. Smyth (1998) who did a meta-analysis on expressive writing also found no relation between the number of writing sessions and effect sizes.

The third hypothesis stating that teachers' sense of efficacy mediated the relationship between expressive writing and stress and burnout was rejected because there was no significant difference among the two treatment and control groups for teachers' sense of efficacy. Hence further analyses using path analysis were not carried out.

<center>Limitations of the Study</center>

Generalization of the findings of this study is limited to prospective teachers who are undergoing their first practice teaching. Usually these teachers are not given full responsibility of the classroom and hence may not experience as high a level of stress as

someone fully in charge of the whole class, like full time teachers, teacher substitutes, and interns. The prospective teachers in the study only spent 14 hours a week teaching the students and 1 hour a week planning their lessons with the cooperating teacher. Never were the prospective teachers left on their own to handle the whole class. Thus the results of this study should not be generalized to individuals with full responsibility for teaching.

Directions for Future Research

The present research should be replicated to determine the effects of varying writing instructions, content of writing, length of writing, and time of writing on the outcome measures. Future researchers might also compare expressive writing with other forms of therapy such as art or dancing to see how they affect the outcome measures relative to other approaches hypothesized to reduce stress.

It would also be interesting to assess the impact of expressive writing on full time teachers' sense of efficacy, stress, burnout, and satisfaction with teaching. Comparisons could be made among elementary, middle, and high school teachers to see if there is any difference in the effectiveness of the expressive writing, according to the level one is teaching. For example, it might be more effective for high school teachers because they are more stressed.

The study showed interactions between expressive writing and level of stress. Thus it seems important to include level of stress as an independent variable in future studies of expressive writing, to determine the impact of expressive writing on different levels of stress. These interactions raise the question of the possibility of expressing one's problems on paper might not come naturally to everyone, so it would be exciting to see how "difficulty/ease" in expressing oneself influences the outcome measures.

Conclusion

Prospective teachers who disclosed their deeply felt experience of the preinternship through expressive writing did not report less stress as indicated by the Teacher Stress Scale (Pettegrew & Wolf, 1982), less burnout as indicated by the Educators Survey (Maslach, Jackson, & Schwab, 1986), a stronger sense of efficacy, as measured by the Gibson and Dembo (1984) Teacher Efficacy Scale, or greater satisfaction with teaching profession than those prospective teachers who wrote about factual events. However expressive writing was effective in reducing stress for those initially having high levels of stress due to role overload and role conflict. Also frequency of expressive writing did not have any impact on prospective teachers' sense of efficacy, stress, or burnout. Further, teachers' sense of efficacy did not mediate the relationship between expressive writing and stress and burnout.

APPENDIX A
INFORMED CONSENT

UNIVERSITY OF FLORIDA

DATE: 18-Jun-99

TO: Mr. Narendra K. Anopchand
           296 Diamond Village #8
           Gainesville, FL 32603-2273

FROM: C. Michael Levy, Chair
           University of Florida
           Institutional Review Board

SUBJECT: **Approval of Project # 1999 - 447**

TITLE: The Impact of Expressive Writing on Prospective Teachers' Sense of
           Efficacy, Stress, and Burnout

FUNDING: Unfunded

I am pleased to advise you that the University of Florida Institutional Review Board has
recommended approval of this project. Based on its review of your protocol, the UFIRB
determined that this research presents no more than minimal risk to participants. Given your
protocol, it is essential that you obtain signed documentation of informed consent from each
participant. Enclosed is the dated, IRB-approved informed consent to be used when
recruiting participants for the research.

If you wish to make any changes to this protocol, you must disclose your plans before you
implement them so that the Board can assess their impact on your project. In addition, you
must report to the Board any unexpected complications arising from the project that affect
your participants.

If you have not completed this project by 16-Jun-00, please telephone our office (392-0433),
and we will discuss the renewal process with you.

It is important that you keep your Department Chair informed about the status of this
research project.

CML:ek/js

cc: Vice President for Research

CONSENT FORM

Dear intern/preintern,

   Hello! My name is Narendra Kumar and I am a graduate student in Educational Psychology at the University of Florida under the supervision of Dr. Patricia Ashton. I am conducting a research to see the impact of expressive writing on prospective teachers' attitudes and beliefs about teaching.

   I would like to invite you to participate in this study. In this study you will be expected to write twice for 20 minutes on a given topic. You will also complete a survey that requires you to rank your degree of agreement with a series of statements. You will be required to complete this survey twice, once one week before the writing and once one month after the writing. The survey will take approximately 35 minutes to complete. You do not have to answer any question you do not wish to answer.

   Please be assured that this study involves no known risks of any kind. The participants in this study will receive no known potential benefit. There will be no compensation for taking part in the study. This study is not part of your intern or preintern curriculum. Your participation or non-participation in the study will not affect your grades or treatment in class. You are free to withdraw permission or participation in the study at any time. In addition, all results of this study as well as any information that you provide will be kept confidential to the extent provided by the law. You will receive a code number so that your name will not appear on the results. If you have any questions, please feel free to contact me at (352) 392 0726 extension 286 or my supervisor (committee chair), Dr. Patricia Ashton, at 392 0723. Questions or concerns about research participants' rights can be directed to the UFIRB office, PO Box 112250, University of Florida, Gainesville, FL. 32611-2250.

Sincerely,

Kumar

Narendra Kumar Anopchand

Doctoral Candidate in Educational Psychology.

I have read the procedure described above. I _____ voluntarily agree to participate in Narendra Kumar Anopchand's expressive writing study. I have received a copy of this description.

Participant's signature _____ Date_____

APPENDIX B
INSTRUCTIONS FOR FIELD ADVISORS

Narendra Kumar Anopchand
2403 Norman Hall,
Gainesville,
FL 32611-7408

email : nka5@ufl.edu
Tel (O) : 392 0726 ext. 286
Tel (H) : 846 5765

August, 1999

Dear preintern field advisor,

My name is Narendra Kumar and you may call me Kumar. I take this opportunity to introduce myself and outline what we will be doing together. I am a graduate student in Educational Psychology at the University of Florida under the supervision of Dr. Patricia Ashton. I am conducting research to see the impact of expressive writing on prospective teachers' attitudes and beliefs about teaching.

All that will be expected of you is to distribute the questionnaire and collect them for me. I will need three half-hour sessions of your weekly meeting time with the students to do this. Details of the procedure are outlined in a separate sheet.

First allow me to thank you for volunteering to help me collect data for my research. I really appreciate what you are doing and to show my gratitude, I invite you all to a dinner (sometime in October – time to be fixed at everyone's convenience) at my residence in Diamond Village. It is walking distance from Norman Hall. I promise you it will be worth your while. There will be no other form of compensation.

Once again I really appreciate the opportunity to work with you. Please feel free to give me feedback whenever necessary, so that together we can make sure the collection of data goes smoothly. Thank you.

Sincerely,

Narendra Kumar Anopchand

<u>PROCEDURE</u>

<u>During the week of September 20</u>

1. Have the students sit in a comfortable room. There should be no discussion while the students are answering the questions.

2. Please distribute the consent form in 'Envelope 1' to your preinterns.

3. Encourage all to participate, as knowledge gained from the research, will help to improve teacher education for future teachers.

4. Then distribute the questionnaire and the Scantron sheet to those who have volunteered. All the preinterns receive the same questionnaire.

5. Once everybody is ready ask them to write their last 4 digits of the social security number in the space provided

6. Please collect the questionnaire and the Scantron sheet once the students have finished. There is no time limit, but they are expected to finish within 30 to 40 minutes.

7. Please put the collected questionnaire, the Scantron sheet and the signed consent form in my mailbox in room 2115 in Norman Hall.

PROCEDURE

1. Have the students sit in a comfortable room. There should be no discussion while the students are writing.

2. Distribute the writing protocol in Envelope '2'. Alternate Form A with Form B as shown on the name list. That is, distribute the forms as shown on the name list in the envelope. Please follow the list to maintain random assignment and maintain different treatment and control groups.

3. Once everybody is ready ask them to write their last 4 digits of the social security number in the space provided.

4. Then ask everybody to write continuously for the next 20 minutes as instructed on the form.

5. Once 20 minutes is up, please instruct the preinterns to finish their last sentence and stop writing.

6. Now distribute the envelope and Form 'C' (has 3 questions).

7. Ask the preinterns to circle their appropriate choice on the question paper. Ask them to write their last 4 digits of the Social Security number on the question paper.

8. Ask the preinterns to put the question paper and their writing in the envelope provided and seal it.

9. Please collect the envelopes and put them in my mailbox in room 2115 in Norman Hall.

<u>PROCEDURE</u>

<u>During the week of October 4</u>

1. Have the students sit in a comfortable room. There should be no discussion while the students are writing.

2. Distribute the writing protocol in Envelope '3'. Please distribute Form B2 and A2 to the students as shown on the name list in the envelope. Please follow the list to maintain random assignment and maintain different treatment and control groups.

3. Once everybody is ready ask them to write their last 4 digits of the Social Security number in the space provided.

4. Then ask everybody to write continuously for the next 20 minutes as instructed on the form.

5. Now distribute the envelope and Form 'C' (has 3 questions).

6. Ask the preinterns to circle their appropriate choice on the question paper. Ask them to write their last 4 digits of the Social Security number on the question paper.

7. Ask the preinterns to put the question paper and their writing in the envelope provided and seal it.

8. Please collect the envelopes and put them in my mailbox in room 2115 in Norman Hall.

PROCEDURE

<u>During the week of December 1</u>

1. Have the students sit in a comfortable room. There should be no discussion while the students are answering the questions.

2. Distribute the questionnaire and the Scantron sheet in Envelope '4' to those who have volunteered. All the preinterns receive the same questionnaire.

3. Once everybody is ready ask them to write their last 4 digits of the social security number in the space provided.

4. Please collect the questionnaire and the Scantron sheet once the students have finished. There is no time limit, but they are expected to finish within 30 to 40 minutes.

5. Please put the collected questionnaire and the Scantron sheet in my mailbox in room 2115 in Norman Hall.

APPENDIX C
ADJUSTED MEANS

Summary of Multiple Comparisons for Dependent Variables

Variable	Adjusted means		
	Two-expressive-group	One-expressive-group	Control group
Teacher Efficacy Scale			
Personal Teaching Efficacy	32.09	29.23	30.85
Teaching Efficacy	18.40	16.80	18.47
Teacher Stress Scale			
Role Ambiguity	9.45	9.60	10.76
Role Overload	9.18	9.19	9.29
Role Conflict	8.85	5.78	8.76
Role Preparedness	21.23	20.23	19.71
Job Satisfaction	21.84	20.85	20.95
Life Satisfaction	23.35	22.69	23.35
Task Stress	9.96	10.39	10.08
Illness Symptoms	4.92	5.32	4.89
Educators Survey			
Emotional Exhaustion	15.23	11.86	12.77

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BIOGRAPHICAL SKETCH

Narendra Kumar Anopchand was born on August 26, 1955, in Sungai Rambai, Melaka. He spent the next 29 years in this village, which had no electricity and tap water until he was 15 years old. He is the third-oldest of 12 children born to Mr. Anopchand and Mrs. Bhanumati.

Kumar received his primary and secondary education in Merlimau, which was 7 miles from his home. Much time was spent commuting to and from school. In 1977 Kumar attended the Malayan Teacher Training College at Penang and graduated with a Certificate in Teaching in 1979. For the next 5 years he taught science at Jementah Secondary School. While teaching, he was actively involved in students' welfare.

Kumar's interest in people motivated him to further his studies in guidance and counseling at University Pertanian Malaysia in 1984. In 1988 he graduated from the University with the bachelor's in education majoring in guidance and counseling. For the next 5 years he served as a student counselor in a secondary school. He also taught commerce and accounting. Kumar was actively involved in counseling activities at the state and national level. In appreciation for his sincere interest to serve students and for his academic ability, he was awarded a Ministry of Education scholarship to do his master's in educational psychology.

Kumar attended the University of Nottingham, United Kingdom, in 1992. In 1993 Kumar graduated with a master's in education, majoring in educational psychology. After graduation he served as a lecturer at Malay Women Teacher Training College. He taught

educational psychology and human development. While in college he tried hard to raise the standards of primary and secondary students. On weekends he was often at schools presenting modules on learning techniques and giving talks on motivation. In recognition of his desire to improve academic standards and his personal academic interest he was awarded a scholarship by the Ministry of Education to do his Ph.D.

Kumar enrolled in the doctoral program at the University of Florida in August 1997. In May 2000 Kumar graduated with a Ph.D. degree in educational psychology from the University of Florida. He will return to his country and serve the Ministry of Education wherever his services are required.

Kumar's professional interests include learning techniques, motivation, and teacher education. His hobbies include reading, traveling, and immersing in different cultures.

Kumar is married to Vanita and is blessed with two boys, Mehul and Vinesh. Kumar hopes the family will continue to share many happy years together.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Patricia Ashton, Chair
Professor of Educational Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Barry Guinagh
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Psychology

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David Miller
Professor of Educational Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirement for the degree of Doctor of Philosophy.

May 2000

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